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## **Land Mobility in a Central and Eastern European Land Consolidation Context**

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**Abstract.** *In most of the Central and Eastern European countries, land reforms after 1989 have resulted in extensive land fragmentation. The majority of the countries have during the two recent decades introduced land consolidation instruments to address the structural problems with land fragmentation and small farm sizes through donor funded projects with international technical assistance. The approach has normally been voluntary and low land mobility in the project areas has often been a constraint. It is the aim of this paper to explore the problems and possible solutions related to low land mobility in a Central and Eastern European land consolidation context. The term land mobility is defined and the limited theory available is reviewed. Case studies of land mobility in land consolidation pilot projects in Moldova, Albania and Bosnia-Herzegovina show the correlation between land mobility and the success or failure of voluntary land consolidation projects. In situations with low land mobility, land consolidation instruments need in order to be successful to be supported by other land policy tools such as land banks. The use of existing state agricultural land is an obvious foundation for establishing a state land bank.*

**Keywords.** *Land mobility, Land consolidation, Land banking, land fragmentation, Central and Eastern Europe*

### **1 Introduction**

Most of the countries in Central and Eastern Europe (CEE) have after 1989 implemented land reforms in which state agricultural land has been privatized, often through restitution of land rights to former owners or distribution of state land to the rural population (e.g. Swinnen et al., 1997; Lerman et. al., 2004 and Hartvigsen, 2013a). A recent study of the 25 CEE countries (figure 1) showed that land reforms in most of the CEE countries have resulted extensive land fragmentation. Currently, in 15 of the 25 countries, high levels of fragmentation of both land ownership and of land use have occurred (Hartvigsen, 2013b).

Land consolidation has for decades in most countries in Western Europe been a well-known instrument to combat land fragmentation and other structural



**Figure 1.** *The 25 study countries in Central and Eastern Europe.*

problems in the agricultural sector such as the need to increase farm sizes and adapt to changing production technology. During the last three decades, the objectives of doing land consolidation in most of these countries have shifted from mainly improving agricultural structures towards a multi-functional purpose where land consolidation increasingly is used as a tool to implement public initiated projects related to nature and environmental protection and infrastructure. At the same time, land consolidation is a tool to compensate the landowners and farmers in land for the land lost to the public project instead of in cash and thus, land consolidation allows them to sustain their production and sometimes even increase it. The Western European countries have different land consolidation traditions, approaches and procedures (Vitikainen, 2004). Distinction is often made between “simple” and “comprehensive” or “complex” land consolidation and between “voluntary” and “compulsory” land consolidation (Thomas, 2006, 245–248).

The majority of the CEE countries have since the beginning of transition in 1990 introduced land consolidation instruments mainly to address the structural problems in the agricultural sector with land fragmentation and small average farm sizes (Van Dijk, 2003a,b and Hartvigsen, 2006). So far, however, only few of the CEE countries have on-going national land consolidation programs including clear policy annual budgets and legislation. In most of the other countries in the region, land consolidation has been introduced with international technical assistance through donor funded development projects.

Land consolidation in CEE has often been introduced with the implementation of pilot projects with voluntary participation of the local stakeholders. There are

a number of reasons why the approach in land consolidation pilots has often been voluntary in the CEE countries. First, the protection of private ownership rights to agricultural land, especially in societies where private landownership had been suppressed during the decades of collectivization. Second, because of the recent history there is often a low trust among the population in public authorities, including those introducing land consolidation through pilots. Without a voluntary approach, pilot communities would in many situations have refused to participate and cooperate on the pilot projects. Third, the nature of pilots are that they are implemented to get experiences and test approaches and procedures which in turn are used to identify changes to the legal framework that are needed to allow future land consolidation programs to operate efficiently and effectively. Hence, the process is just as important as the results measured in landowner participation rate, number of land transactions etc.

Experiences from the many donor funded land consolidation projects throughout the CEE countries during the last 15 years show that local landowners and farmers are often interested in participating in the voluntary projects. However, it has often been difficult to build up re-allotment plans that allow all the interested stakeholders to benefit from the new parcel structure in the project area. A major reason for this is often low *land mobility* in the land consolidation projects. So far, very little research and theoretical work has been done on land mobility in land consolidation, especially in a CEE context.

It is the aim of this paper to explore the problems and possible solutions related to low land mobility in a CEE land consolidation context. First, the limited theory available will be reviewed (Soerensen, 1987). Second, case studies of land mobility in recently implemented land consolidation pilot projects in three CEE countries; Moldova, Albania and Bosnia-Herzegovina will focus on the problems caused by limited land mobility applying the theory of Soerensen. Third, tools to increase land mobility (e.g. land banking and motivation of local landowners and farmers) are discussed and conclusions made.

## **2 Research Methodology**

So far there have been no theoretical attempts to assess land mobility in a CEE land consolidation context and only few analysis of land mobility in a Western European context despite of numerous papers on land consolidation over the years. The theory on land mobility developed by Soerensen based on a study of the Danish land consolidation practice 1979–84 is in section 3 reviewed in a CEE land consolidation context (Soerensen, 1987).

No studies of land mobility in a CEE context have been conducted before. Hence, no statistical evidence or other data exists on the level of land mobility in the region. The analysis of the problems related to low land mobility in land consolidation projects and the discussion of possible solutions will in section 4 be based on case studies of land mobility in recently implemented land consolidation pilot projects in Moldova, Albania and Bosnia-Herzegovina. These countries are selected because the author has thorough knowledge and practical experience from providing technical assistance on FAO and World Bank funded land consolidation

pilot projects in these countries. As mentioned, these projects were pilots. All things being equal, it can be expected that the land mobility will be lower in pilots compared to projects under national land consolidation programs. The main reasons for this are that pilots are implemented without land consolidation legislation and there will often be very limited knowledge and capacity on land consolidation at the pilot stage. This is further discussed in section 4.

Yin argues that case study research constitutes an appropriate research strategy when a contemporary phenomenon is studied in depth and within its real-life context when the boundaries between phenomenon and context are not clearly evident (Yin, 2009, 3–23). The study of land mobility in land consolidation projects coincide well with this definition. Case studies can, according to Yin, cover multiple cases and then draw a single set of “cross-case” conclusions (Yin, 2009, 20). The three cases are explored through desk studies of available project reports, including land ownership maps and land mobility maps, but first and foremost by drawing on the practical experiences of the author from the projects. Flyvbjerg, in the context of conducting case studies, argues that “*virtuosity and true expertise are reached only via a person’s own experiences as practitioner of the relevant skills*” (Flyvbjerg, 2011, 303).

### 3 Theory on Land Mobility in a Land Consolidation Context

As it was explained in the introduction, various approaches to land consolidation exist within Europe and the term *land consolidation* is often used to describe different traditions and procedures. As a consequence, a commonly accepted definition of land consolidation does not exist. FAO has, however, explained land consolidation in the following way.

Land consolidation is a term used broadly to describe measures to adjust the structure of property rights through co-ordination between owners and users. Land consolidation involves the reallocation of parcels to remove the effects of fragmentation but the term goes well beyond these actions. Land consolidation has been associated with broad economic and social reforms from the time of its earliest applications (FAO, 2004, 1).

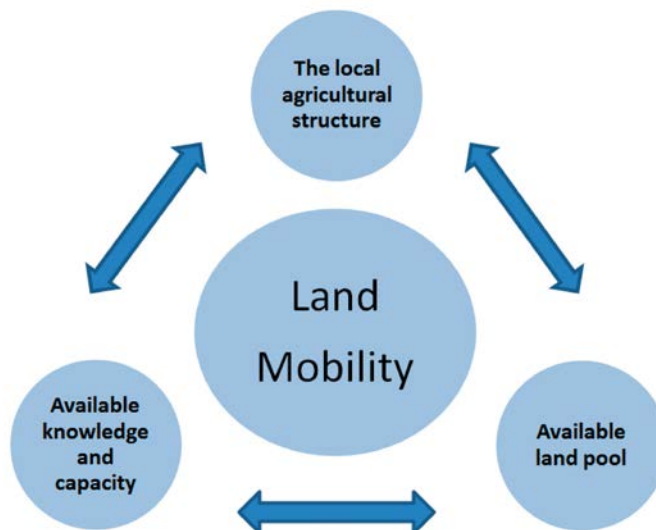
The term *land mobility* in land consolidation projects has so far not been clearly defined. Since land mobility is an essential element in land consolidation, a definition of land mobility has to be consistent with a common accepted understanding of land consolidation. In this paper, *land mobility in land consolidation projects is defined as the coordinated extent of re-structuring of land rights through sale, purchase, exchange or lease from one owner to another as it proves possible during the re-allotment process.*

Hence, land mobility is a term which can be used at the initial stage of the land consolidation project to describe the potential transfer of land rights in a land consolidation project. It can, however, also describe the realized transfer of land rights after the project has been finalized. That the transfer of land rights is “coordinated” means that a planning process is carried out which results in the re-allotment plan negotiated between the involved stakeholders in the project area.

The Danish land consolidation tradition is rooted in the land reforms, the enclosure movement, that began in 1780s and which resulted in a farm structure dominated by individually owned family farms. The first “modern” land consolidation law in Denmark was adopted in 1924. As in most other Western European countries, the objective of land consolidation has gradually shifted from the 1980s and onwards from being a tool to address structural problems in agriculture (reducing fragmentation and enlarging agricultural holding sizes) to mainly being a tool for implementation of public initiated projects which determine a change in land use of private owned agricultural land such as nature and environmental projects as well as infrastructure projects. Participation in Danish land consolidation projects is voluntary. However, private land can be acquired by the state or municipalities through expropriation for public projects defined as “public needs” but always according to a specific legal provision and against full compensation to the landowner.

Soerensen conducted a study of the Danish land consolidation practice during 1979–84 based on which he formulated a theory on land mobility in land consolidation projects (Soerensen, 1987, 192–198). According to the theory, *land mobility* is the pivotal element in the land consolidation planning process, i.e. in building up the re-allotment plan after negotiations and voluntary agreements with landowners and farmers in the project areas. The creation of land mobility in project areas where land consolidation is implemented is an important precondition for successful implementation of the projects.

This study showed that three key factors are determining the land mobility in a land consolidation project area; i) the local agricultural structure, ii) the available land pool and iii) availability of knowledge and capacity. This is illustrated in figure 2.



**Figure 2.** Three key factors determining land mobility in land consolidation projects.  
Source: After Soerensen, 1987, 193.

The *local agricultural structure* at the beginning of the project is important basically because it defines the potential for improvement if a land consolidation project is successfully implemented in the specific project area. There are different aspects of the local agricultural structure. First, the ownership structure, i.e. agricultural holding sizes and level of ownership fragmentation. If the level of land fragmentation in the project area is high, then the potential for improvement will normally often also be high as well as the motivation of local stakeholders to participate. Second, the farm structure, including land leased out and leased in. Third, the local land market situation including the demand from farmers for purchase of additional agricultural land and their wish to develop their farms. The structural development where expanding farmers, through normal land market transactions, purchase additional land, not always contiguous to existing parcels, will also create ownership fragmentation and a need to “tidy up”.

The *available land pool* is agricultural land parcels in the project area which will be available for the voluntary re-allotment planning. The land pool can come from landowners who in the land consolidation process decide to sell all their agricultural land or part of it while gradually reducing their production as they become older. The land pool can also come from land parcels which have been marginalized for the owner’s production (e.g. meadows from pig farmers). Available public owned land can as well contribute to the land pool. Finally, the land pool also consists of land parcels which are becoming available in the land consolidation process as the owners exchange these for other land.

*Local knowledge and capacity* on land consolidation is the third key factor which determines the land mobility. This factor has two different aspects. First, knowledge of land consolidation among the local stakeholders in the project area is important for their interest in participating. It is often much easier to implement a project in a village neighboring a village with a recent successful project as the good news on the benefits from the project are spread in the local communities. It is much easier to motivate people to participate when they have already understood how they can benefit. When there is limited knowledge of land consolidation among local stakeholders, awareness rising becomes crucial. Second, the planning capacity, i.e. the education, experience, technical and personal skills of the professionals involved in facilitating the negotiations between the local stakeholders that eventually shall result in the final re-allotment plan.

Soerensen found in the study of the Danish land consolidation practice in the 1980s that at least two of the three key factors must be available to ensure a level of land mobility sufficient for successful implementation of the voluntary land consolidation project in the Danish context (Soerensen, 1987, 198).

#### **4 The Problem of Limited Land Mobility in a Central and Eastern European Land Consolidation Context**

More than  $\frac{3}{4}$  of the 25 CEE countries have since 1990 had experience with land consolidation. Today, six of the 25 countries have on-going national land consolidation programs. These are the Czech Republic, Slovakia, (Eastern) Germany, Poland, Slovenia and Lithuania. Of these, Poland and Slovenia already

had land consolidation programs during the socialist era as collectivization had largely failed in Poland and Yugoslavia and most of the agricultural land was owned and farmed by small and often fragmented family farms (Hartvigsen, 2013a).

In most of the CEE countries, land consolidation has been introduced through donor funded development projects with technical assistance from Western European land consolidation experts, especially from the Netherlands, Germany, Sweden and Denmark. The introduction of land consolidation has often been through projects which have included one or more land consolidation pilots, often implementing the re-allotment plan following normal land transaction procedures since land consolidation legislation has normally not been developed and adopted at this initial stage.

FAO, the Food and Agricultural Organization of the United Nations, has played a key role in the process through publishing guidelines (FAO, 2003; FAO, 2004; FAO, 2008), implementing field projects and facilitating a network of land management and land consolidation professionals and organized a series of workshops from 2002 and onwards. Furthermore, *the Voluntary Guidelines on the Responsible Governance of Tenure of Land, Fisheries and Forests in the Context of National Food Security*, endorsed by the UN Committee on World Food Security in May 2012, has a section with recommendations on *land consolidation and other readjustment approaches* (FAO, 2012, 23–24). FAO has in the CEE countries so far implemented land consolidation projects in Armenia, Serbia, Lithuania, Moldova, Albania and Bosnia-Herzegovina. Land consolidation pilots have been included in the projects except in Lithuania and Moldova where pilots had already been carried out when FAO was requested for assistance. All the FAO projects have included the development of land consolidation strategies to enable the countries to identify what changes should be made to the legal and organizational structures in order to move from pilots to a full national land consolidation program. Hence, among the objectives of the land consolidation pilots have been to provide practical experience in how to do land consolidation and build on these experiences when developing the strategies. The pilots were implemented without the advantage of land consolidation legislation following normal land transaction procedures. As a result, the expectation has been that the pilots would not operate as effectively as projects in the future national land consolidation programs, including by having less potential for land mobility.

Lithuania is a very good example of how fast the development of a national land consolidation program can be (Hartvigsen, 2006, 9). The first small land consolidation pilot project was started in 2000 and less than six years later, in 2006, the first 14 projects under a national land consolidation program were launched and funded under the Lithuanian Rural Development Programme. In the less than six years, two rounds of pilots were implemented, legal framework for land consolidation was developed and adopted by the parliament and the national program launched.

In this section, case studies of the situation with land mobility in Moldova, Albania and Bosnia-Herzegovina, three countries where land consolidation has



recently been introduced through pilots, will provide analysis of the constraints of low land mobility and possible solutions. Soerensen's three key factors determining land mobility will be applied in the analysis.

#### **4.1 Moldova Case**

Moldova became after WWII part of Soviet Union. During the Soviet era, all agricultural land was owned by the state and utilized in large-scale collective and state farms. Land reform in Moldova was made feasible in 1991 through the adoption of the land code (Hartvigsen, 2013a, 39–41). During the early 1990s, the agricultural land in Moldova was distributed to the rural population, first as land shares and between 1997 and 2001 in physical land parcels. In total, around 1.7 million ha was privatized to almost 1.1 million new owners, each with an average landholding of 1.56 ha, normally distributed in 3–4 parcels (i.e. 1–2 parcels of arable land, one parcel of orchard and one parcel of vineyard). The land reform has resulted in a high level of fragmentation of land ownership. Farm structures after land reform are dualistic with many small family farms and relatively few large corporate farms (Hartvigsen, 2013b). Land use fragmentation has occurred in a medium-high level compared with the other CEE countries. A unified cadastre and land register was build up together with the land privatization process and the new land ownership registered. In many cases, however, registration problems and errors occurred such as discrepancies between land titles and cadastral plans and the physical land pattern on the ground (Cashin and McGrath, 2005, 638). These problems hamper the development of the rural land market and also have a limiting effect on land mobility in voluntary land consolidation projects in addition to the issues of land mobility discussed below.

As a result of increasing political awareness of the problems experienced by small and fragmented farms, in 2004 the Government of Moldova requested the World Bank to assist in addressing the situation (Hartvigsen et al., 2013). A feasibility study during 2005–06 outlined the concept of a project with simultaneous implementation of land consolidation pilots in six villages. The Moldova Land Re-parceling Pilot Project was implemented in 18 months during the period July 2007 to February 2009 and funded by the World Bank and SIDA, the Swedish development agency. FAO methodology and training materials was followed (see further section 4.2). At the initial stage of the project, in total more than 7,000 landowners and almost 27,000 agricultural parcels were identified in the six pilots. The project concept was completely voluntary and participatory and the new parcel structures (re-allotment plans) were reached after six local project teams supported by national and international consultants had facilitated negotiations between the local landowners and farmers. In total, 2,908 landowners or 40 percent of the landowners participated in the project. Three villages were very successful with the other three being less so. The participation rate varied considerably from 14 percent in Opaci and Baimaclia and to 71 percent in Bolduresti and 82 percent in Busauca. In total, 1,776 hectares changed owners.

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, the six pilot villages were typical for the situation

in Moldova. Data on land ownership in the six pilots is displayed in table 1. The average parcel size varied between 0.21 ha and 0.73 ha. The average number of parcels per owner before the project varied from 3.19 to 5.08. In all six villages, the land ownership was highly fragmented at the beginning of the project. Thus, there was high potential for reduction of the ownership fragmentation through the land consolidation project.

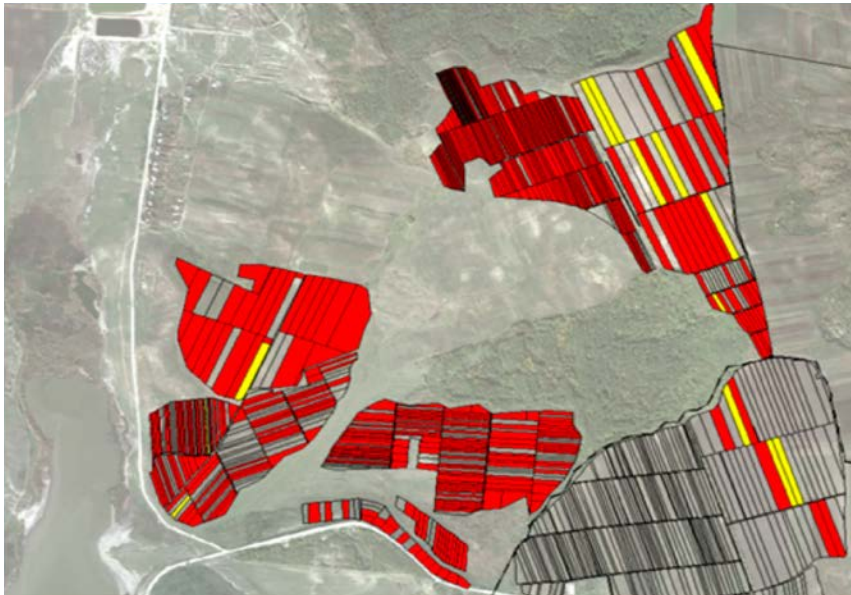
**Table 1.** Land ownership in Moldova land consolidation pilots.

Source: Hartvigsen, 2008, 14.

	Pilot village 1 (Busauca Village)	Pilot village 2 (Sadova Village)	Pilot village 3 (Bolduresti Village)	Pilot village 4 (Calmatui Village)	Pilot village 5 (Opaci Village)	Pilot Village 6 (Baimaclia Village)
Total no. of registered agricultural land parcels	3.088	5.922	6.006	1.757	5.626	4.204
Identified no. of landowners	708	1.319	1.786	634	1.762	1.048
Average parcel size	0.50ha	0.21ha	0.29ha	0.40ha	0.60ha	0.73ha
Average number of parcels pr. owner	4.72	4.49	3.36	3.69	3.19	5.08

In all six pilot villages, the agricultural land was in the land reform process in the 1990s distributed equally between the rural population in three categories; arable land, vineyard and orchard. While the size of the arable land parcels often vary between 0.5 and 1.0 ha, the orchard and vineyard parcels are much smaller, often 0.05–0.2 ha. Absence of dominating corporate farms in the pilot villages was one of the criteria for selection of the pilots. Thus, the land use structures in the six pilots were dominated by small and medium sized family farms. Most of the landowners utilized their own arable land parcels. In other cases they were rented out to the local medium-sized family farmers. The orchard and vineyard parcels, however, were often not used by the owners and sometimes not used at all, either because of the unproductive parcel size or because the perennials were old and unproductive. In some cases, the perennials had been cut and turned into arable land or left as wasteland (Hartvigsen et al., 2013, 14).

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, this is closely related to the local land market. Presence of demand for additional agricultural land among the local farmers was one of the criteria for selection of the pilots. Despite of this, it was the experience of the pilots in Moldova that the actual demand for additional land varied greatly among the six pilots. In the three most successful villages, there were at the same time high demand for purchase of additional agricultural land and available land pool. Many landowners wanted to sell their parcels of unproductive orchards and



**Figure 3.** Land Mobility Map for part of Bolduresti pilot village, Moldova. The map was prepared based in the initial stage of the project based on the analysis of landowner interviews. The red parcels were offered for sale by the owners under the precondition that an agreement can be reached with the potential buyer. Yellow parcels were offered for exchange under the precondition that the land given in exchange was acceptable.

vineyards and in some situations also the arable land. Public agricultural land was not available for the land consolidation process in the pilot villages as it had all been privatized during the land reform in the 1990s.

At the initial stage of the land consolidation pilots, all the identified landowners were interviewed about their interest in and wish for the land consolidation, i.e. which parcels they considered to sell, exchange as well as interest in purchase of additional land. Hence, the project approach was at the same time to facilitate exchange and the selling and buying of land parcels. Based on this information, a so-called Land Mobility Map was prepared for each village. In relation to the land mobility theory of Soerensen, at more precise name of the map would have been Land Pool Map as only one of the three key factors in the theory was analyzed and displayed on the map. Part of the land mobility map from Bolduresti pilot village is displayed in figure 3. The figure illustrates that many contiguous parcels were available in the land pool which gave good options preparing a good re-allotment plan. In general, the land mobility map provides a snapshot of the available land pool for the voluntary land consolidation project. However, the picture will almost always change as the land consolidation process moves on. Some landowners may have too high expectations to the price level and may decide not to sell when they get a concrete offer. Some are willing to sell and an agreement with the buyer can be reached but problems with land registration prevent the transaction from being

implemented and registered (Cashin and McGrath, 2005, 638). Others, on the other hand, who were initially not interested may change their mind when they see how neighbors and family members have benefitted from the project. Hence, there will almost always be considerable difference between the potential available land pool in the initial stage of the project and what is realized at the end of the project.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, all six pilots in Moldova were at the beginning of the project in the same situation. Since the land consolidation pilot was the first of its kind in Moldova, very little knowledge of land consolidation existed among the stakeholders in the pilot villages. An awareness campaign was conducted at the initial stage of the project with a series of community workshops, individual information to stakeholders during interviews and dissemination of an information brochure in each pilot village. During these initiatives, the project concept was explained to the local community.

For the same reasons, very little experience with land consolidation existed among land professionals in Moldova when the project began. The contractor employed a team of three national consultants for the project and 1–2 local experts for each pilot village. A training program was developed and training on land consolidation in a voluntary and participatory approach was conducted by the international consultants. The training was based on training materials developed by FAO (FAO, 2006). The local experts were supervised by the team of national and international consultants. The members of the local teams had different technical backgrounds. Most of them were educated as agronomist and some as land surveyors. The task of facilitating land consolidation agreements between the local stakeholders was new to all of them. However, it was the experience of the project that some of the local experts had the personal skills, e.g. negotiation skills and empathy that facilitated good results, while this was not the case for others.

We can conclude that one of the main reasons for the successful implementation of the land consolidation pilots in three of the six villages was the relative high land mobility in the villages. The agricultural structures were in all six villages favorable for the project implementation, i.e. high potential for reduction of fragmentation and enlargement of agricultural holding sizes. The three most successful villages had both a relative high demand for additional agricultural land among the local stakeholders and an available land pool, mainly from unproductive orchard and vineyard parcels. In the three less successful villages, local family farmers were not in the same way demanding more land or were not able to fund purchase of additional land. These three villages also had more land registration problems, mainly unregistered inheritance cases. When a new owner is not registered within six months after the death of the registered owner, the registration procedure in Moldova becomes complicated and lengthy. The short project period did often not allow for these cases to be solved in time by the Courts. Finally, in the three weaker villages, some of the local land professionals were not in the same way as in the successful villages having the right personal skills for the new professional task of conducting land consolidation planning.

#### **4.2 Albania Case**

During the collectivization after WWII, all agricultural land was nationalized in Albania. When the communist regime fell in 1990, the land reform process was launched in 1991. In only 18 months, 700,000 ha of arable land that used to be controlled by 420 collective and state farms were distributed to nearly 500,000 family farms, separated into nearly 2 million parcels (Hartvigsen, 2013a, 21–24). Thus, land reform in Albania resulted in a complete break-up of the existing farm structure and restructuring of the agricultural sector. In the mid-1990s after completion of the distribution of the state land to the rural population, the average agricultural holding size was 1.05 ha per family in average distributed in 3.3 land parcels, often with long distance between parcels. The average parcel size is around 0.3 ha and the fields are rarely contiguous.

More than 90 percent of the arable land in Albania is being farmed by the owners in small-scale family farms. In 2011, Albania had about 390,000 family farms with an average size of 1.26 ha (including leased land), divided in 4.7 parcels. Hence, the owner structures and the land use structures are almost convergent resulting in excessive fragmentation of both ownership and land use.

The Albanian Ministry of Agriculture, Food and Consumer Protection requested in 2008 FAO to fund and implement a land consolidation pilot project. The project was implemented during 2010–2013 with three main components; i) development of a national land consolidation strategy for Albania, ii) pilot land consolidation in three neighboring villages in one municipality and iii) training and capacity development. The project concept was completely voluntary and built on the active participation of the local stakeholders. Transaction costs were funded by the project.

The pilot villages were located in Terbuf Municipality. A local team of three experts were recruited for the pilot activities. They were in the daily work supported by three national consultants and a small international team of FAO experts and international consultants.

At the initial stage of the project, in total 715 landowners with in total 4,248 land parcels were identified in the three villages (Sallaku, 2013). Data on land ownership in the three pilot villages is displayed in table 2 and in figure 4. All available landowners (74 percent) were interviewed about their agricultural production as well as interest in and wish for the land consolidation project. Most of the remaining landowners were not present in the village and a few refused to be interviewed. As many as 84 percent of the interviewed landowners expressed during the interviews an interest in participating in the land consolidation project (Hartvigsen, 2012). In the second phase of the project, the re-allotment plan was build up after negotiations between the local stakeholders facilitated by the local team. In total around 150 landowners (families) or 28 percent of the interviewed landowners found solutions in the project with in total around 200 land parcels in the re-allotment plan. In the third phase of the project, the land transactions agreed between the local landowners were registered following the normal Albanian land registration procedures. At the end of the project land transactions involving only 17 landowners and 35 land parcels were fully registered and implemented. The

reason for this was complicated and time consuming normal land transaction procedures in Albania. The pilot project identified the changes needed to the legal framework, including an Albanian land consolidation law, to ensure simplified and cost-effective registration procedures in future land consolidation projects.

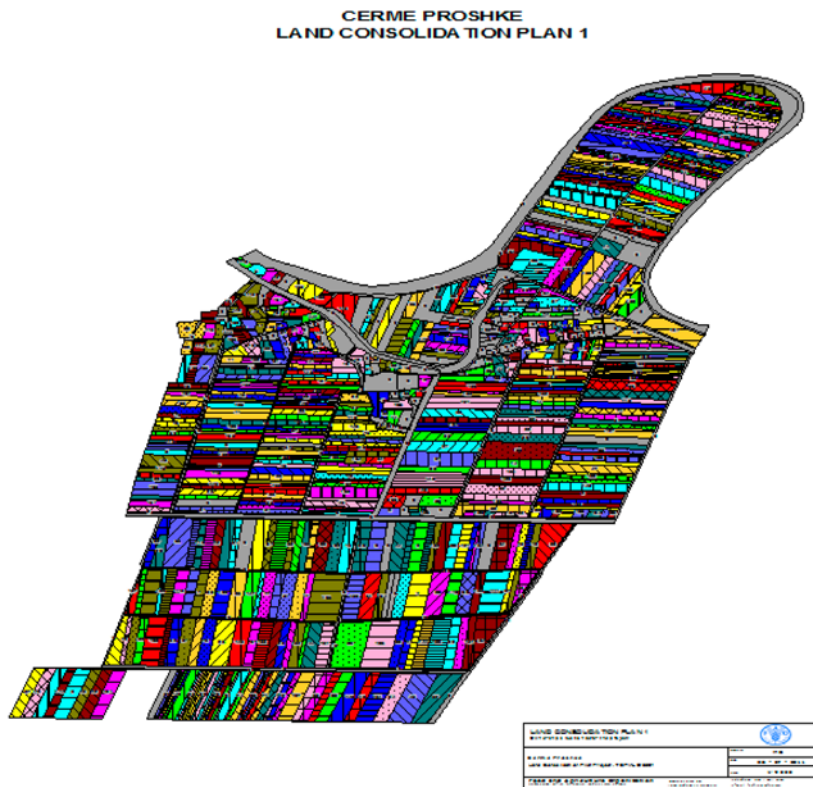
**Table 2.** Land ownership in Albania land consolidation pilots. Source: Sallaku, 2011.

	Pilot village 1 (Cerme e Siperme Village)	Pilot village 2 (Cerme e Vogel Village)	Pilot village 3 (Cerme Proshke Village)
Total no. of registered agricultural land parcels	2,455	784	1,009
Identified no. of Landowners (families)	406	143	166
Average parcel size	0.32ha	0.37ha	0.38ha
Average number of parcels pr. owner (family)	6.05	5.48	6.08

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, the ownership structure was similar in the three pilot villages before the project. The average parcel size varied between 0.32 and 0.38 ha (table 2). Almost all land parcels in the villages were arable and more or less of the same soil quality. The average number of parcels per owner (family) varied between 5.48 and 6.08. Land ownership was excessive fragmented and the potential for reduction of the fragmentation through the land consolidation project high. Renting of land was uncommon and more than 90 percent of the land parcels were utilized by the owners. Thus, also the land use was excessive fragmented and the potential for a successful pilot high.

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, almost all the interested landowners expressed during the initial interviews that they wanted to exchange land parcels and reduce the number parcels. Very few were considering to sell land and very few could afford to purchase additional land. The rural families were depending on the small income they could make from the small family farms and had very little alternatives for income outside agriculture. The local rural land market was very weak and almost not existing despite of very high land prices in the few reported transactions. Public agricultural land was not available for the land consolidation process in the pilot villages as all the good quality public land had been privatized during the land reform in the 1990s. As a result, the available land pool was limited to many parcels which could be exchanged for other parcels of the same value neighboring or close to other parcels of the owner. In practice this made the land consolidation planning (the re-allotment plan) extremely difficult without a land pool of parcels from sellers or public owned agricultural land to catalyze the land consolidation process.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, some local knowledge on land consolidation



**Figure 4.** Land ownership map (Plan 1) for Cerme Proshke village, Albania (2011). The parcels owned by each owner (family) are identified by a unique color/pattern. Source: Sallaku, 2011.

existed from a World Bank funded land consolidation project implemented in a neighboring municipality during 2002–04. An awareness campaign was conducted in the FAO project together with the project implementation with a series of community workshops and individual information to the local stakeholders during interviews and negotiations.

None of the members of the local expert team and only one of the national consultants had previously had experience with land consolidation pilots. A training program was developed and training on land consolidation in a voluntary and participatory approach was conducted by the FAO experts and consultants. The training built on the FAO training materials also used in Moldova (section 4.1). The local experts were supervised by the team of national and FAO experts.

We can conclude that the land mobility in the three Albanian pilot villages has been extremely low despite the excessive fragmentation of both land ownership and land use and hence a high potential for improved farm structures through the land consolidation project. This was mainly caused by the limited available land pool, i.e. very few sellers and no available public land to catalyst the process. The available land pool, mainly from owners interesting in exchange of parcels, was not enough to catalyst the re-allotment process. Furthermore, the situation was

worsened by complicated and lengthy normal land transaction procedures and family members being absent from the village. The pilots in Albania have, despite the low number of registered land transactions, provided valuable experiences for the development of a future Albanian land consolidation instrument, including useful insight on land mobility.

### 4.3 Bosnia-Herzegovina Case

In Yugoslavia, the majority of the agricultural land was in private ownership as well as use throughout the socialist era. As much as 82 percent of the agricultural land was owned by small private family farms in 1985 (Hartvigsen, 2013a, 28). In Bosnia-Herzegovina, 94 percent of the agricultural land was and still is owned by small-scale private family farmers. Land reform has, as opposed to almost all other CEE countries, not yet been launched in Bosnia-Herzegovina and restitution of state land to former owners remains unsolved (Hartvigsen, 2013a, 34–35). The excessive fragmentation of land ownership which was characteristic before WWII remains basically the same today. Valid statistics do not exist, but the average size of agricultural holdings (owned land) is between 2 and 3 ha, normally distributed into 4–8 parcels. Farm structures are dominated by the many small family farms and few large corporate farms, often operating on leased state land. Land abandonment is widespread even on fertile agricultural land for a number of reasons, such as land fragmentation, limited access to sales markets and the fact that many owners during and after the war in the 1990s have moved away from the communities where their land is located. Land market development is furthermore hampered by out-of-date land registers. Many of the registered owners have been dead for decades and inheritance remains unsolved and unregistered in the families.

The Ministry of Foreign Trade and Economic Relations of Bosnia-Herzegovina has together with the entity governments requested FAO to fund and implement a land consolidation pilot project. The project is being implemented during 2011–2014 with the same three main components as the project in Albania (section 4.2). Land consolidation pilots are being completed in two neighboring municipalities (Trebinje and Ravno) in the Popovo Polje valley in the southwestern part of the country. The re-allotment planning was launched in May 2013. Thus, the land consolidation process was still on-going at the time of writing (September 2013).

**Table 3.** Land ownership in Albania land consolidation pilots.

Source: Drinjak et al., 2013 and Bukvic et al., 2013.

	Pilot village 1 (Dracevo Village)	Pilot village 2 (Trncina Village)
Total no. of registered agricultural land parcels	2,285	783
Identified no. of Landowners (families)	192	164
Average parcel size	0.24ha	0.23ha
Average number of parcels pr. owner (family)	11.90	4.77





**Figure 5.** Land ownership map (Plan 1) for Dracevo village, Bosnia-Herzegovina (2013). The parcels owned by each owner (family) are identified by a unique color/pattern. The green parcels are owned by the State. Source: Drinjak et al., 2013.

When it comes to the first of the three key factors of the land mobility theory, *local agricultural structures*, land ownership in the two pilot villages is excessive fragmented (table 3). In Dracevo pilot village, the average parcels size is 0.24 ha and each owner has in average as many as 11.9 land parcels. In Trncina pilot area, the average parcels size is 0.23 ha and each owner has in average 4.77 land parcels. In both pilots, more than 80 percent of the arable land is abandoned because of land fragmentation, absentee landowners, old age of remaining owners and also because of the recurrent risk of flooding in the valley area. In the Dracevo pilot area, 233 ha out of in total 751 ha is owned by the state and rented out to a local corporate farm. The state land is displayed with green color on the land ownership map in figure 5. In the Trncina pilot area, only a few hectares of public owned land exists.

The farm structures vary considerable between the two pilots. In Dracevo, there are around 20 active farmers and most of them are interested in using the project as an opportunity to both reduce fragmentation and increase the size of owned land by purchasing additional land. In Trncina, most of the farmers are old (average age of owners is around 70 years) and only few are interested in developing



**Figure 6.** Land Mobility map for Dracevo village, Bosnia-Herzegovina (2013). The red parcels are offered for sale by the owners under the precondition that an agreement can be reached with the potential buyer. Yellow parcels are offered for exchange under the precondition that the land given in exchange was acceptable. Green parcels are owned by the State and available for exchange with the private stakeholders. Source: Drinjak et al., 2013.

their farm activities. Hence, the potential for voluntary land consolidation is much higher in Dracevo than in Trncina.

When it comes to the second of the three key factors of the land mobility theory, *the available land pool*, the final results of the pilots are, as mentioned, not yet available. However, it is expected, based on the interviews of all available landowners during 2012–13, that the situation also on this aspect of land mobility will vary considerable between the two pilots. In Trncina, as many as 98 percent of the interviewed landowners have indicated interest in participating in the project (Bukvic et al., 2013). However, the majority of landowners are interested in reduction of fragmentation through exchange of parcels and only very few are interested in selling parcels or purchase of additional agricultural land. In Dracevo, the situation is quite different. Out of the 2,285 land parcels in the pilot area, the owners have during the initial interviews indicated that 316 parcels can be sold and 530 parcels can be exchanged in the project (Drinjak et al., 2013). In addition, it is expected that the 233 ha of state land can be exchanged with private land in the land consolidation process. It is according to the law not allowed to sell the state land due to the unsolved question of restitution to the former owners,

but state land can after agreement with the entity government be exchanged with private land of the same value. The land mobility map for Dracevo pilot village is displayed in figure 6.

When it comes to the third of the three key factors of the land mobility theory, *local knowledge and capacity*, the situation in Bosnia-Herzegovina is completely different from the cases in Albania and Moldova. Land consolidation projects (*komasacija* and *arondacija* in local language) were implemented in Yugoslavia during the socialist era. In Bosnia-Herzegovina from the mid-1970s and until interrupted by the war in the early 1990s (Hartvigsen, 2013a, 30). The pre-war land consolidation approach was similar to the German and Dutch approach in the 1950s and 1960s, with land consolidation often being implemented in connection with large-scale agricultural development projects. The approach was top-down and the projects often used to enlarge and consolidate state farms sometimes at the expense of the private farmers. There are, however, also many examples where private farmers have benefitted from the projects. Participation in the projects was compulsory for the landowners with land in the project area when the majority of landowners voted for the implementation of the project. Hence, land mobility was not an issue at all as the land parcels in the project area by definition were mobile. The tradition for *komasacija* and *arondacija* projects before 1990 is both an advantage and a disadvantage for the implementation of the on-going FAO pilots. Most rural stakeholders know from the pre-war projects about the benefits which can be expected from land consolidation projects but they are sometimes also reluctant and fear that they will be forced to participate in the projects against their will. One of the main challenges for the on-going project is to inform the stakeholders in the pilot communities about the approach of the FAO project, e.g. voluntary and active participation of the stakeholders. An awareness campaign is being conducted together with the project implementation in a similar way as in the projects in Albania and Moldova.

A few of the Bosnian experts involved in the FAO land consolidation project worked before the war with the *komasacija* projects. A training program has been developed and training on land consolidation in a voluntary and participatory approach is conducted by the international consultants. The training builds on the FAO training materials also used in Albania and Moldova.

We can conclude that the land mobility in the two pilots in Bosnia-Herzegovina can be expected to be very different despite that they are being implemented in the same valley in two neighboring municipalities. In Dracevo, the land mobility can be expected to be high because of the available land pool from owners willing to sell and from the exchange of state land. Furthermore, there are commercial farmers in the village who are interested in developing their business. Supply and demand seems to correspond well.

## **5 Lessons Learned**

The analysis of the case studies of land mobility in voluntary land consolidation pilots in Moldova, Albania and Bosnia-Herzegovina (sections 4.1–4.3) shows that good results of the land consolidation pilots, i.e. high level of participation

among local stakeholders and improvement of the holding and farms structures through reduction of land fragmentation and increased farm sizes, depend on the land mobility in the project areas. Low land mobility is a big practical problem in the process of building up the re-allotment plan, especially in a voluntary land consolidation approach where parcels are only “mobile” after solutions for selling, purchase or exchange are agreed between the owners. However, in order for land consolidation pilots to be widely acceptable to farmers and landowners in most CEE countries, it has been necessary for land consolidation to be introduced as a voluntary approach.

The three pilot villages in Albania and one of the Bosnian villages show very well how low land mobility can hamper the quality and results of the re-allotment planning. The three Albanian villages also show the difference between the potential land mobility and the realized land mobility. Even though many local landowners and farmers were interested in participating in the project, it was very difficult to reach agreements on the re-allotment plan when the parcels were only mobile through exchange. Complicated and time consuming normal land transaction procedures worsened the situation in Albania further.

Low land mobility can also be a problem in a compulsory land consolidation approach where the majority of landowners vote for the implementation of the project if the project is implemented together with a public initiated project that is taking private owned land out of production, e.g. infrastructure or nature restoration projects. In such projects, low land mobility will make it difficult to compensate the local farmers in land and allow them to sustain their production.

Based on the three cases it can be concluded that Soerensen's theory on land mobility, initially developed in a Danish context, seems to be robust and applicable also in a Central and Eastern European land consolidation context when the projects are implemented in a voluntary approach. All three key factors of land mobility are relevant, also in a CEE context. However, in the three case studies, the most important factors of land mobility have been the *local agricultural structures*, especially the availability of local farmers willing to develop and increase their agricultural production, and *the available land pool* from owners willing to sell their land and from available state land. A reasonable balance between supply and demand of agricultural land is crucial for the results of land consolidation projects with a voluntary approach.

## 6 Perspectives

Several initiatives can be taken to improve land mobility in voluntary land consolidation projects under national land consolidation programs.

A first way to improve land mobility is by improving the procedures to be used for land consolidation. The development and adoption of a good legal framework is an important step. The pilots in Moldova and Albania have shown that in the absence of a good legal framework the existing procedures for transfers result in obstacles that can prevent or discourage landowners from participating in projects. Land consolidation legislation should provide simplified and cost-effective land transaction procedures that eliminate such obstacles. The same

obstacles are hampering the normal development of the rural land market and a good land registration system will also contribute to increase of land mobility in land consolidation projects. Procedural reforms that lower transaction costs of participation can also improve land mobility as this increases the motivation of the local stakeholders to participate. The pilots have shown that land mobility tends to increase when more landowners become interested in participating in a project, and hence more land parcels become available for transfer. One way, used in the three cases studies, is that projects pay for the transfer and registration costs.

Procedures for a land consolidation project can also be revised to address obstacles that prevent people from entering into transactions. For example, in the pilot villages of Moldova the project teams helped the participating landowners to resolve existing registration problems, such as the many situations where the registered owners were deceased. This was an additional motivation for many families to participate in the land consolidation project. Addressing such land registration problems should become an integrated part of the procedures in an ongoing land consolidation program. In this way, land consolidation projects can help to remove obstacles that are preventing families from participating in land markets.

A second way to improve land mobility is by improving the implementation of land consolidation projects. This can be done by ensuring that the projects are of sufficient length (e.g. 2–3 years) to allow for the resolution of problems affecting land transfers, and by considering the farming seasons in the project schedule (e.g. with negotiations taking place in winter when farmers are not busy in the fields).

Developing the capacity of land consolidation professionals can also improve the implementation of projects. When facilitating agreements between the local stakeholders, the land consolidation professionals should be able to encourage them to be flexible and open to alternative solutions. Landowners have a natural tendency to propose solutions for the re-allotment plan based on the often limited information they have. They may know what family members or neighbors are interested in and try to coordinate this with their own interests. They are for natural reason often not considering solutions that involve stakeholders who they do not know or who are absent from the village. The land consolidation professionals, however, have information on the interest of all or at least most of the stakeholders and should be able to open up for solutions which benefit as many of the stakeholders as possible.

The implementation of land consolidation projects can also be improved when there is flexibility in the demarcation of the project area. For example, in the Trncina pilot village in Bosnia-Herzegovina (section 4.3) where the land mobility is very low, the project area has been enlarged in an attempt to increase land mobility. The original project area is now the “core” project area with surrounding areas. Some of the landowners with land parcels in the core area also have parcels in the surrounding areas. In these areas, land transactions can be included in the land consolidation pilot only as long as this will increase the land mobility in the core project area, e.g. by exchanging parcels in the core project area in exchange

for parcels outside the core area. This will create “space” for better solutions both inside and outside the core project area.

The two ways described above aim to improve the mobility of privately-owned land in the project area. A third way to improve land mobility in a land consolidation project is through the availability of land owned by the public sector (e.g. the central state or regional and local governments). Adding a supply of publicly-owned land increases the total amount of land that is available for sale or exchange in the project. In this way, the public sector (i.e. the owner of the public land) becomes a participant in the land consolidation project.

Publicly-owned land can be incorporated in projects by aligning the privatization process with land consolidation goals. For example, the use of existing publicly-owned agricultural land when available is an obvious solution as the case in Dracevo village in Bosnia-Herzegovina shows. If allowed according to law in the country, the possibility of not only exchanging but also selling publicly-owned agricultural land further increases land mobility. In this way, as alternative to selling publicly-owned land at auctions, its slow privatization through land consolidation projects is able to contribute to agricultural and rural development. Even if the legislation in the country is not currently allowing sale of state land, as in Bosnia-Herzegovina, not only private owners but also the state can benefit from the project through the enlargement of parcels sizes which increases the market value of the state land as it does with private owned land.

In contrast, land banks offer a more proactive approach to using publicly-owned land in land consolidation projects. In many Western European countries, state land banks operating in integration with the land consolidation programs are a tool which can be used, among other objectives, to increase land mobility in land consolidation projects. Introduction of land banks in the CEE countries together with the building up of national land consolidation programs is also an obvious long-term solution in these countries. Land banking has been widely discussed among land management professionals in the region during several workshops over the last decade (e.g. FAO workshops in Tonder, Denmark 2004, Prague 2010, and Budapest 2011). So far, however, in CEE countries, only few attempts have been made to actually create state land banks with the main objective to strengthen the land consolidation instruments.

Despite the limited progress with land banks to date in CEE countries, the experience of Western European countries suggest that their use can greatly facilitate land mobility in land consolidation projects. The land bank purchases agricultural land from private owners in or around future land consolidation project areas, normally on market conditions, holds it temporary for a few years while the land consolidation project is being executed, and sells the land again as part of the land consolidation project. The available land pool is enlarged and the land bank parcels are used to catalyze the land consolidation process and better results are obtained. Thus, the full potential of both land consolidation and land banking is, in situations with low land mobility, only reached when both instruments are applied together.

## **7 Final Remarks**

We have seen that land mobility is a key issue determining success or failure of land consolidation projects in a voluntary approach. Land consolidation instruments are not existing in a vacuum but need, in order to be successful, to be integrated in the countries overall land policy.

The three cases show that the land mobility theory of Soerensen when applied in a CEE context also can be used to identify the factors which determine the land mobility in the specific situation and hence to a large degree the outcome of the land consolidation projects. Furthermore, the factors determining land mobility can be used when designing the overall land policy in a way that can increase land mobility and hence supports the implementation of land consolidation projects.

If the land mobility is low as in the Albanian case, even the best designed land consolidation instrument needs to be supported by other land policy tools which can increase the land mobility in order to be successful. The obvious long-term response to low land mobility, also in CEE, would be the introduction of state land banks as explained in section 6. A number of CEE countries have a reserve of state agricultural land left over after the finalization of land reforms. In CEE countries with on-going land consolidation programs such as Lithuania, Slovenia, Poland, the existing state owned agricultural land could be the basis for a state land bank with the main objective of supporting the implementation of land consolidation projects. This, however, would necessitate strong coordination in the countries between the management of the land consolidation programs and state land management and call for a strategically political decision to use the available state land where appropriate to improve land mobility in land consolidation projects and in this way to improve agricultural structures through reduction of land fragmentation and enlargement of farm sizes.

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